

EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|--------|--|------------------------------------|------------------|---------|------------------|
| L1 | 14 | US-4281184-\$.DID. OR US-5811597-\$.DID. OR US-5741953-\$.DID. OR US-5705711-\$.DID. OR US-5013407-\$.DID. OR US-5449801-\$.DID. OR US-4939294-\$.DID. | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |
| L2 | 310762 | acetic | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |
| L3 | 4 | L1 and L2 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |
| L4 | 9046 | chloroacetic | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |
| L5 | 2 | L1 and L4 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |
| L6 | 265630 | chlorine | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |
| L7 | 3158 | L4 and L6 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |
| L8 | 11 | "4885897" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |
| L9 | 82 | 562/602 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |
| L10 | 1077 | reactive adj distillation | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |
| L11 | 1 | L9 and L10 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |

EAST Search History

| | | | | | | |
|-----|---|--------------|---|----|----|------------------|
| L12 | 4 | "2002010094" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/01/30 13:29 |
|-----|---|--------------|---|----|----|------------------|

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NEWS 7 DEC 21 IPC search and display fields enhanced in CA/CAplus with the
IPC reform
NEWS 8 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/
USPAT2
NEWS 9 JAN 13 IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
NEWS 10 JAN 13 New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to
INPADOC
NEWS 11 JAN 17 Pre-1988 INPI data added to MARPAT
NEWS 12 JAN 17 IPC 8 in the WPI family of databases including WPIFV

NEWS EXPRESS JANUARY 03 CURRENT VERSION FOR WINDOWS IS V8.01,
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT
<http://download.cas.org/express/v8.0-Discover/>

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STRUCTURE FILE UPDATES: 29 JAN 2006 HIGHEST RN 872967-60-7
DICTIONARY FILE UPDATES: 29 JAN 2006 HIGHEST RN 872967-60-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

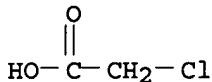
```
=> e monochloroacetic acid/cn
E1      1      MONOCHLOROACETATE ION(1-)/CN
E2      1      MONOCHLOROACETATOTRIPHENYLSTANNANE/CN
E3      1 --> MONOCHLOROACETIC ACID/CN
E4      1      MONOCHLOROACETIC ACID METHYL ESTER/CN
E5      1      MONOCHLOROACETIC ACID PYRIDINE COMPOUND (2:1)/CN
E6      1      MONOCHLOROACETIC ACID SODIUM SALT/CN
E7      1      MONOCHLOROACETIC ACID SODIUM SALT HOMOPOLYMER/CN
E8      1      MONOCHLOROACETIC ACID SODIUM SALT HOMOPOLYMER, SRU/CN
E9      1      MONOCHLOROACETIC ACID TRIMETHYLAMINE SALT/CN
E10     1      MONOCHLOROACETIC ACID-STYRENE TELOMER/CN
E11     1      MONOCHLOROACETIC ANHYDRIDE/CN
E12     1      MONOCHLOROACETOHYDROXAMIC ACID/CN

=> e3
L1      1 "MONOCHLOROACETIC ACID"/CN

=> d 11

L1  ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2006 ACS on STN
RN  79-11-8  REGISTRY
ED  Entered STN: 16 Nov 1984
CN  Acetic acid, chloro- (8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
CN  α-Chloroacetic acid
CN  Chloracetic acid
CN  Chloroacetic acid
CN  Chloroethanoic acid
CN  MCA
CN  MKhUK
CN  Monochloroacetic acid
```

CN Monochloroethanoic acid
CN NSC 142
CN NSC 42970
FS 3D CONCORD
MF C2 H3 Cl O2
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

9704 REFERENCES IN FILE CA (1907 TO DATE)
686 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
9718 REFERENCES IN FILE CAPLUS (1907 TO DATE)
7 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

| | SINCE FILE | TOTAL |
|----------------------|------------|---------|
| | ENTRY | SESSION |
| COST IN U.S. DOLLARS | | |
| FULL ESTIMATED COST | 7.10 | 7.52 |

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FILE COVERS 1907 - 30 Jan 2006 VOL 144 ISS 6
FILE LAST UPDATED: 29 Jan 2006 (20060129/ED)

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=> 11
L2 9718 L1

```

=> l1/prep
      9718 L1
      3415975 PREP/RL
L3      596 L1/PREP
          (L1 (L) PREP/RL)

=> reactive adj distillation
      281104 REACTIVE
      144 REACTIVES
      281203 REACTIVE
          (REACTIVE OR REACTIVES)
      235 ADJ
      52558 DISTILLATION
      375 DISTILLATIONS
      52692 DISTILLATION
          (DISTILLATION OR DISTILLATIONS)
      173226 DISTN
      1761 DISTNS
      173960 DISTN
          (DISTN OR DISTNS)
      187934 DISTILLATION
          (DISTILLATION OR DISTN)
L4      0 REACTIVE ADJ DISTILLATION
          (REACTIVE (W) ADJ (W) DISTILLATION)

=> reactive distillation
      281104 REACTIVE
      144 REACTIVES
      281203 REACTIVE
          (REACTIVE OR REACTIVES)
      52558 DISTILLATION
      375 DISTILLATIONS
      52692 DISTILLATION
          (DISTILLATION OR DISTILLATIONS)
      173226 DISTN
      1761 DISTNS
      173960 DISTN
          (DISTN OR DISTNS)
      187934 DISTILLATION
          (DISTILLATION OR DISTN)
L5      989 REACTIVE DISTILLATION
          (REACTIVE (W) DISTILLATION)

=> l3 and l5
L6      1 L3 AND L5

=> d 16 ti fbib abs

L6  ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN
TI  A process for the preparation of monochloroacetic acid from acetic acid
   and chlorine
AN  2004:333684 CAPLUS
DN  140:341116
TI  A process for the preparation of monochloroacetic acid from acetic acid
   and chlorine
IN  Gorissen, Johannes Joseph; Van Strien, Cornelis Johannes Govardus
PA  Akzo Nobel N.V., Neth.; Crouzen, Jeroen
SO  PCT Int. Appl., 19 pp.
   CODEN: PIXXD2
DT  Patent
LA  English
FAN.CNT 1
   PATENT NO.          KIND      DATE      APPLICATION NO.      DATE
   -----          -----      -----      -----      -----
```

| | | | | | |
|---------------|---|----------|-----------------|-----------------|----------|
| PI | WO 2004033408 | A1 | 20040422 | WO 2003-EP10944 | 20031002 |
| | WO 2004033408 | C1 | 20050512 | | |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | EP 2002-79252 | A 20021011 | |
| EP 1549604 | A1 | 20050706 | EP 2003-807833 | 20031002 | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | EP 2002-79252 | A 20021011 | |
| | | | WO 2003-EP10944 | W 20031002 | |
| BR 2003015232 | A | 20050823 | BR 2003-15232 | 20031002 | |
| | | | EP 2002-79252 | A 20021011 | |
| | | | WO 2003-EP10944 | W 20031002 | |
| US 2005272953 | A1 | 20051208 | US 2005-529144 | 20050419 | |
| | | | EP 2002-79252 | A 20021011 | |
| | | | WO 2003-EP10944 | W 20031002 | |

OS CASREACT 140:341116

AB A process for the production of monochloroacetic acid from chlorine and acetic acid in the presence of a catalyst (e.g., acetyl chloride) by reactive distillation is described and a process flow diagram is presented. The process and the required reactive distillation apparatus is much less complex than conventional reactors and yields a monochloroacetic acid product having a low content of over-chlorinated byproducts.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
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| | | | |
|--|--|------------|---------|
| => file reg | | | |
| COST IN U.S. DOLLARS | | SINCE FILE | TOTAL |
| | | ENTRY | SESSION |
| FULL ESTIMATED COST | | 16.28 | 23.80 |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | | SINCE FILE | TOTAL |
| | | ENTRY | SESSION |
| CA SUBSCRIBER PRICE | | -0.75 | -0.75 |

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DICTIONARY FILE UPDATES: 29 JAN 2006 HIGHEST RN 872967-60-7

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* effective March 20, 2005. A new display format, IDERL, is now *
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*

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

```
=> e chlorine/cn
E1          1      CHLORINDIONE/CN
E2          1      CHLORINDRIN/CN
E3          1  --> CHLORINE/CN
E4          1      CHLORINE (35CL2)/CN
E5          1      CHLORINE (35CL37CL)/CN
E6          1      CHLORINE (35CL37CL1+)/CN
E7          1      CHLORINE (37CL)/CN
E8          1      CHLORINE (37CL2)/CN
E9          1      CHLORINE (CL1+)/CN
E10         1      CHLORINE (CL2+)/CN
E11         1      CHLORINE (CL21+)/CN
E12         1      CHLORINE (CL3)/CN

=> e3
L7          1      CHLORINE/CN

=> file caplus
COST IN U.S. DOLLARS          SINCE FILE      TOTAL
                                ENTRY          SESSION
FULL ESTIMATED COST          5.20          29.00

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE      TOTAL
                                                ENTRY          SESSION
CA SUBSCRIBER PRICE          0.00          -0.75
```

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FILE LAST UPDATED: 29 Jan 2006 (20060129/ED)

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=> 17
L8 70376 L7

=> 17/rct
70376 L7
2811887 RCT/RL
L9 10299 L7/RCT
(L7 (L) RCT/RL)

=> d his

(FILE 'HOME' ENTERED AT 10:03:43 ON 30 JAN 2006)

FILE 'REGISTRY' ENTERED AT 10:04:34 ON 30 JAN 2006
E MONOCHLOROACETIC ACID/CN

L1 1 E3

FILE 'CAPLUS' ENTERED AT 10:05:10 ON 30 JAN 2006

L2 9718 L1
L3 596 L1/PREP
L4 0 REACTIVE ADJ DISTILLATION
L5 989 REACTIVE DISTILLATION
L6 1 L3 AND L5

FILE 'REGISTRY' ENTERED AT 10:07:35 ON 30 JAN 2006
E CHLORINE/CN

L7 1 E3

FILE 'CAPLUS' ENTERED AT 10:07:55 ON 30 JAN 2006

L8 70376 L7
L9 10299 L7/RCT

=> 13 and 19

L10 23 L3 AND L9

=> d 110 11-23 ti

L10 ANSWER 11 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
TI Chlorination process and catalysts for preparing chloroacetic acid from acetic acid and chlorine

L10 ANSWER 12 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
TI Process for preparing chloroacetic acid

L10 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
TI Preparation of chloroacetic acid

L10 ANSWER 14 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
TI Process for preparation of chloroacetic acid

L10 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
TI Preparation of monochloroacetic acid

L10 ANSWER 16 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
TI Process and dechlorination catalysts for the preparation of chloroacetic acid containing reduced amounts of dichloroacetic acid impurity

L10 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
TI Preparation of monochloroacetic acid

L10 ANSWER 18 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
TI Preparation of monochloroacetic acid by chlorination of acetic acid

L10 ANSWER 19 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
 TI Process and apparatus for the manufacture of monochloroacetic acid

L10 ANSWER 20 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
 TI Process for producing α -chloroacetoacetic acid monomethylamide

L10 ANSWER 21 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
 TI Study of an industrial atmosphere. Chlorine-ethene interactions in a simulated atmosphere

L10 ANSWER 22 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
 TI Studies on vinyl chloride migrating into drinking water from poly(vinyl chloride) pipe and reaction between vinyl chloride and chlorine

L10 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
 TI Monochloroacetic acid

=> column

392722 COLUMN
 101933 COLUMNS
 L11 442855 COLUMN
 (COLUMN OR COLUMNS)

=> l10 and l11
 L12 2 L10 AND L11

=> d 112 1-2 ti fbib aBS

L12 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN
 TI A process for the preparation of monochloroacetic acid from acetic acid and chlorine
 AN 2004:333684 CAPLUS
 DN 140:341116
 TI A process for the preparation of monochloroacetic acid from acetic acid and chlorine
 IN Gorissen, Johannes Joseph; Van Strien, Cornelis Johannes Govardus
 PA Akzo Nobel N.V., Neth.; Crouzen, Jeroen
 SO PCT Int. Appl., 19 pp.
 CODEN: PIXXD2

DT Patent
 LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|------------|
| PI | WO 2004033408 | A1 | 20040422 | WO 2003-EP10944 | 20031002 |
| | WO 2004033408 | C1 | 20050512 | | |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| | EP 1549604 | A1 | 20050706 | EP 2002-79252 | A 20021011 |
| | | | | EP 2003-807833 | 20031002 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | | |
| | BR 2003015232 | A | 20050823 | EP 2002-79252 | A 20021011 |
| | | | | WO 2003-EP10944 | W 20031002 |
| | | | | BR 2003-15232 | 20031002 |
| | | | | EP 2002-79252 | A 20021011 |

| | | | | |
|---------------|----|----------|-----------------|------------|
| US 2005272953 | A1 | 20051208 | WO 2003-EP10944 | W 20031002 |
| | | | US 2005-529144 | 20050419 |
| | | | EP 2002-79252 | A 20021011 |
| | | | WO 2003-EP10944 | W 20031002 |

OS CASREACT 140:341116

AB A process for the production of monochloroacetic acid from chlorine and acetic acid in the presence of a catalyst (e.g., acetyl chloride) by reactive distillation is described and a process flow diagram is presented. The process and the required reactive distillation apparatus is much less complex than conventional reactors and yields a monochloroacetic acid product having a low content of over-chlorinated byproducts.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN
TI Method for selective chlorination in microreactors
AN 2002:107275 CAPLUS
DN 136:150935
TI Method for selective chlorination in microreactors
IN Wehle, Detlef; Dejmek, Michael; Rosenthal, Johannes; Ernst, Herbert; Kampmann, Detlef; Trautschold, Stephan; Pechatschek, Robert
PA Clariant G.m.b.H., Germany
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2

DT Patent
LA German

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|------------------|------------|
| PI | WO 2002010094 | A1 | 20020207 | WO 2001-EP8859 | 20010726 |
| | W: CN, IN, JP, MX, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | DE 2000-10036603 | A 20000727 |
| | DE 10036603 | A1 | 20020207 | DE 2000-10036603 | 20000727 |

OS CASREACT 136:150935; MARPAT 136:150935
AB C1CR1R2R3 [R1, R2 = H, Cl, CO₂H; or R1R2 = CO; R3 = H, (substituted) Ph, PhCH₂] was prepared by selective chlorination of HCR1R2R3 (R1, R2, R3 as above) with Cl₂ at >140° preferably at 170°-190° in a microreactor. Thus, AcOH and AcCl were treated at 190° with Cl₂ at an overpressure of 6 bar in a microcapillary reactor to give 90% C1CH₂CO₂H. Yield of C1CH₂CO₂H as byproduct was reduced to <0.05%.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> LOGOFF HOLD
COST IN U.S. DOLLARS
FULL ESTIMATED COST

| SINCE FILE ENTRY | TOTAL SESSION |
|---------------------|------------------|
| 15.97 | 44.97 |

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

| SINCE FILE ENTRY | TOTAL SESSION |
|---------------------|------------------|
| -1.50 | -2.25 |

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STN INTERNATIONAL SESSION SUSPENDED AT 10:10:40 ON 30 JAN 2006